



Challenges of Distance-based Road Usage Charging “RUC”

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The time has come to apply distance-based charging

- The time has come to begin transitioning distance-based RUC in states where it is a mature policy, and for states where it is not mature to do policy development and testing
- Reason to transition: Gas tax revenues are in a state of perpetual decline
 - Latest CAFE standards will cause a major (24-60%) drop in fuel tax revenues by 2025
 - Vehicles with new powertrain technologies do not pay gas tax (Electric, plug-in hybrid, LNG, etc.)
 - Vehicles with Internal Combustion Engines (ICE) are also becoming more fuel efficient
 - The gas tax was always a proxy for road usage. New technologies are eroding its quality as a proxy, while other new technologies are removing the administrative and cost barriers to collecting RUC



All Future Scenarios – Revenue Declines in Oregon

It doesn't matter which future scenario occurs; fuel taxes will continue to decline in the years ahead due to fleet efficiency - ICEs, Alternate Fuels, Hybrids, Plug-in Hybrids & Electric Vehicles



Source: ODOT OIPP RUCPP Report on Fleet Forecast based on the GreenStep model results, February 2013



The debate on Road Usage Charging is typically NOT a debate whether the technology exists to enable it.

Most Decision Makers and the Public perceive that the technology exists and the technology is capable of enabling a road usage charging system.

In the policy world, perception is reality!



Repeating Themes against distance-based charging

- Too complicated and expensive to operate;
- Inequitable to rural drivers;
- Technology invades privacy of the driver; and
- No business case for it.



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Financial / Operational Cost Model

Annual operational costs per \$156 million revenue = \$10 million (sum of all salaries and direct costs plus 50% contingency) = 6.7% of revenues.

Number of RUC accounts	Administration costs as a % of revenues
10,000	55%
100,000	12%
500,000	5.2%
1,000,000	4.6%
4,000,000	3.3%

Source: DCL Financial/Organizational model for ODOT with scenario MPM-4 parameters.

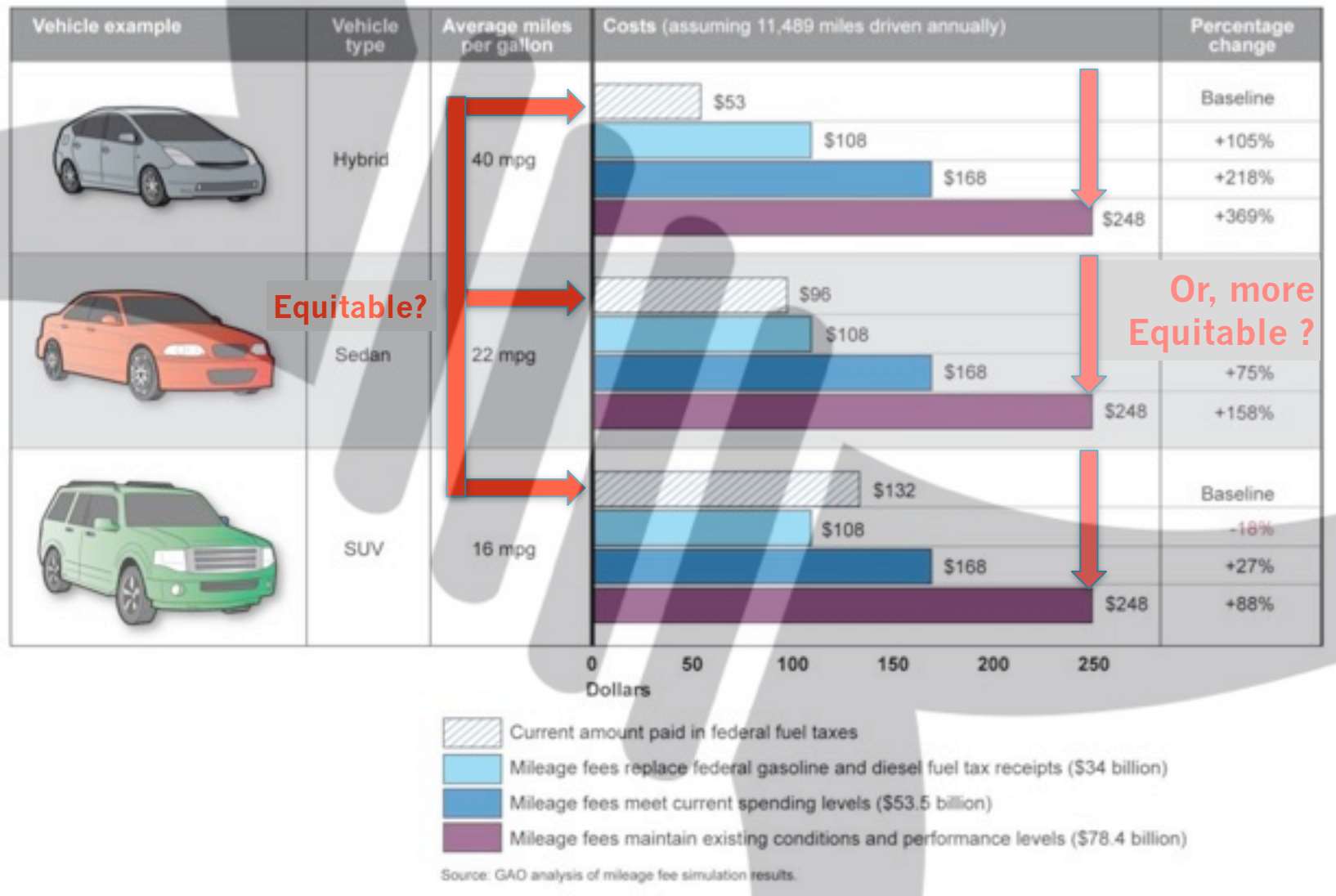


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Equity of a road usage charging system



Source: GAO Report GAO-13-77 Pilot Program Could Help Determine the Viability of Mileage Fees for Certain Vehicles, December 2012

Urban and Rural Road Usage Charge Impacts Average Self-reported Trip Distances (Miles)

Trip Purpose	Urban	Mixed	Rural
Medical appointments	8.8	13.1	24.0
Clothes shopping	7.9	10.1	22.5
Work or school	11.1	15.1	16.0
Grocery shopping	4.0	9.1	14.8
Restaurants	5.3	7.0	11.6

- Rural residents tend to drive longer distances for all trips including medical appointments, shopping, and school**

Source: Rural-Urban Survey results compiled from representative counties for ODOT , October 2012.



Urban and Rural Road Usage Charge Impacts

Self-reported Distance Driven Annually (Miles)

County Type	Total miles driven (A)	Miles off road (B)	Total on-road miles (C = B - A)	Miles driven out-of-state (D)	Total miles on Oregon public roads (C - D)
Urban	12,843	721	12,122	765	11,357
Mixed	13,865	1,077	12,788	1,495	11,293
Rural	12,511	1,090	11,421	1,939	9,482

- **The difference in miles driven among urban, mixed, and rural counties is not substantially different.**
- **Rural motorists drive more off-road and out-of-state miles than other motorists. This holds true for “border” and “non-border” counties.**
- **These figures are self reported but nevertheless illuminate individuals’ collective impressions of their own situations**

Source: Rural-Urban Survey results compiled from representative counties for ODOT , October 2012.

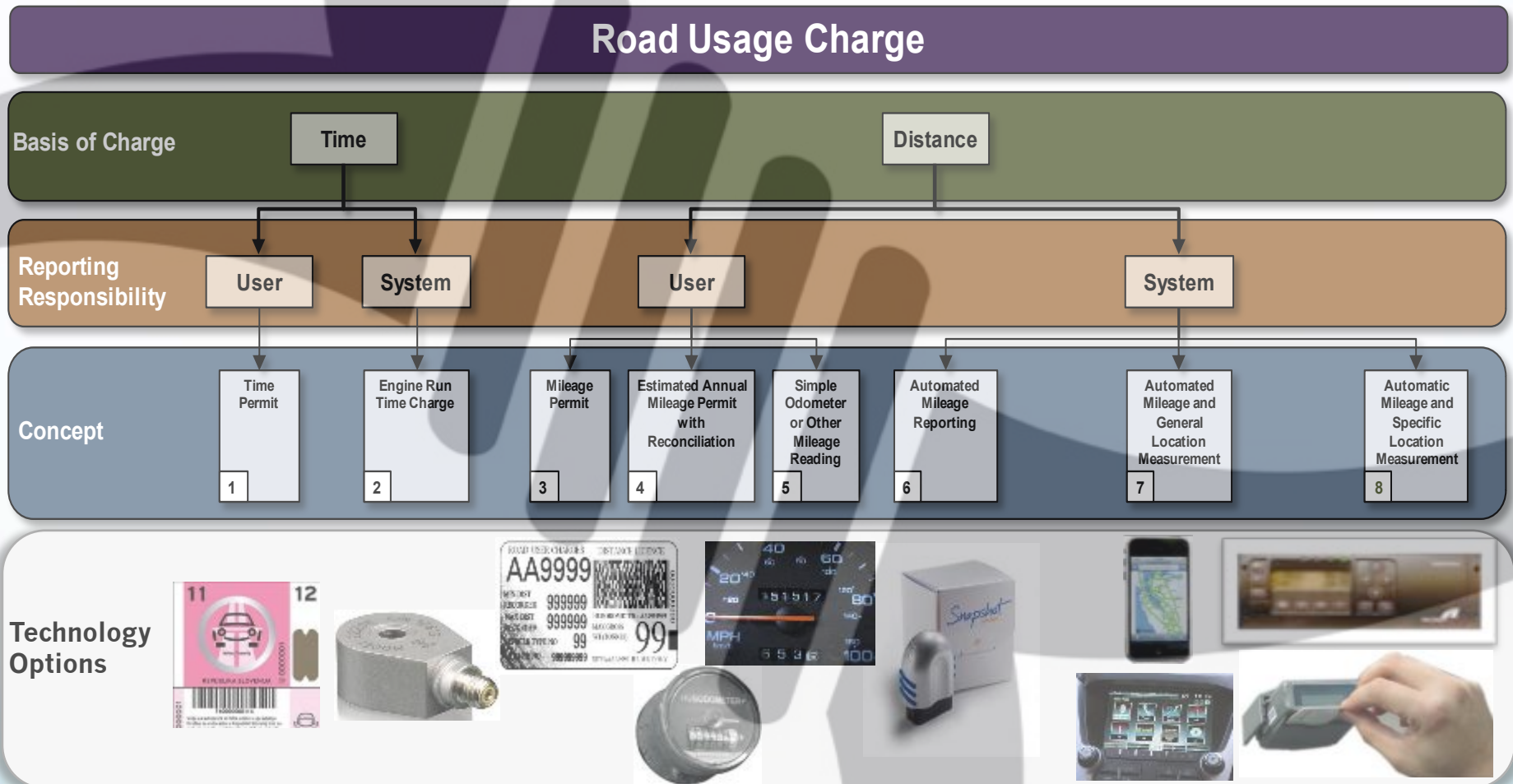


Repeating Themes against distance-based charging

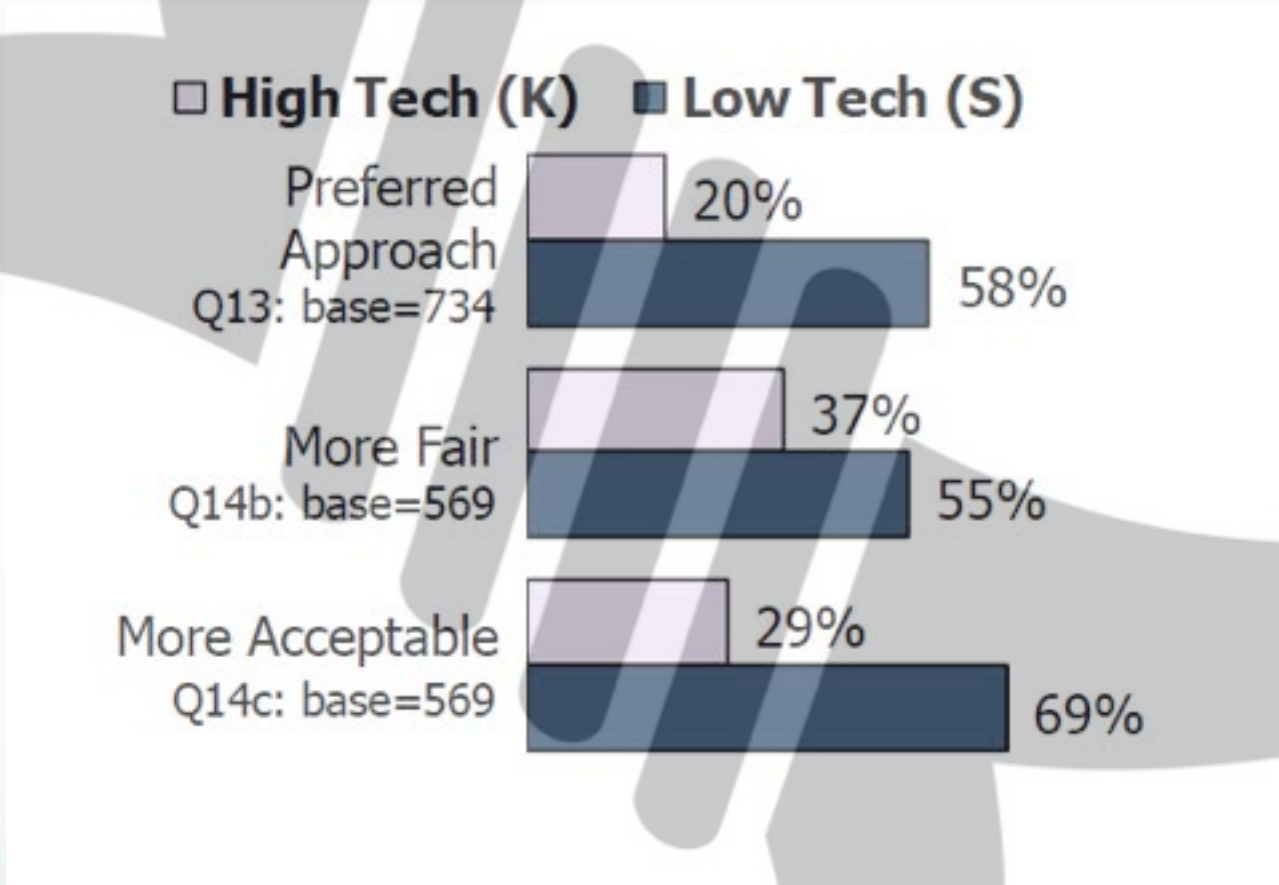
- Too complicated and expensive to operate;
- Inequitable to rural drivers;
- **Technology invades privacy of the driver; and**
- No business case for it.



“User Choice”



Minnesota Public Opinion on “Solutions”



“High Tech” = GPS device

“Low Tech” = Odometer reading

Source: The Dieringer Research Group Inc. for Minnesota Department of Transportation, June-July 2009

Minnesota Public Opinion on “Features”

Why do you prefer this approach?			
High Tech (K) base=146		Low Tech (S) base=423	
Convenience (NET)	39%	Less invasive/more private (NET)	49%
Simple/Accurate	31%	Don't like GPS/Gov't monitoring	31%
Fairness (NET)	21%	Costs (NET)	23%
Road maintenance paid by user	11%	Lower administrative costs	18%
Collection method (NET)	20%	Convenience (NET)	19%
Like the GPS idea	11%	Simple/Accurate	18%
Base for fees (NET)	18%	Base for fees (NET)	16%
Based on time of day	7%	Not based on time of day	8%
Based on type of road driven	6%	Based on mileage driven	4%
Enforcement issues (NET)	9%	Collection method (NET)	12%
Costs (NET)	4%	Fairness (NET)	7%
		Enforcement issues (NET)	3%

Source: The Dieringer Research Group Inc. for Minnesota Department of Transportation, June-July 2009

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- **No business case for it.**



Summary Statistics for Oregon Legislative Pilot Test

Statistic	Nov. 2012	Dec. 2012	Jan. 2013	Feb 2013	Total
Transactions	1,402	2,787	2,867	1,180	8,236
Total Miles	32,908.9	71,059.0	79,663.8	49,918.9	233,550.6
Oregon Miles	31,478.4	35,346.4	35,671.0	25,842.4	128,538.2
Nevada Miles	1,430.5	18,663.2	26,366.4	24,076.5	70,536.6
Washington Miles	0	17,049.4	17,626.4	0	34,675.8
Gross Tax	\$479.71	\$542.51	\$1176.64	\$642.77	\$2,841.63
OR Fuel Tax Credit	-\$371.16	-\$316.65	-\$985.79	-\$492.24	-2,165.84
Net Tax	\$108.55	\$225.86	\$190.85	\$150.53	\$675.79
Increased Revenue	+29%	+71%	+19%	+31%	+31%

Note: Revenues based on per mile rate of 1.56¢ in Oregon; 1.87¢ in Washington and 1.19¢ in Nevada

Source: The Preliminary Findings Report on the Oregon Legislative Pilot Test, February 2013

Effect of Improving Fuel Efficiency When State Fuel Tax and VMT Are Held Constant

Oregon

1 million auto and light truck VMT
÷ 21.8 mpg
= 45,872 gallons of gasoline
× 30¢ Oregon State fuel tax
= \$13,761 in nominal revenues

- 37%

Est. 2016 CAFÉ Standard

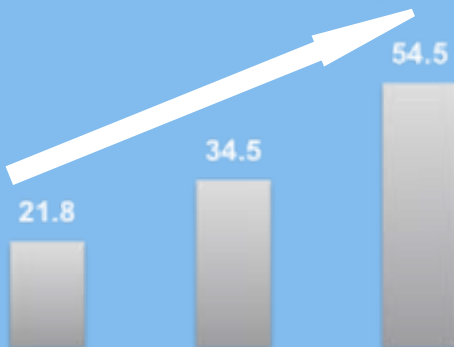
1 million auto and light truck VMT
÷ 34.5 mpg (average)
= 28,986 gallons of gasoline
× 30¢ Oregon State fuel tax
= \$8,696 in nominal revenues

- 60%

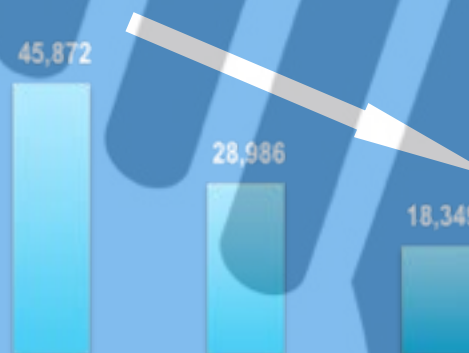
Est. 2025 CAFE Standard

1 million auto and light truck VMT
÷ 54.5 mpg (average)
= 18,349 gallons of gasoline
× 30¢ Oregon State fuel tax
= \$5,505 in nominal revenues

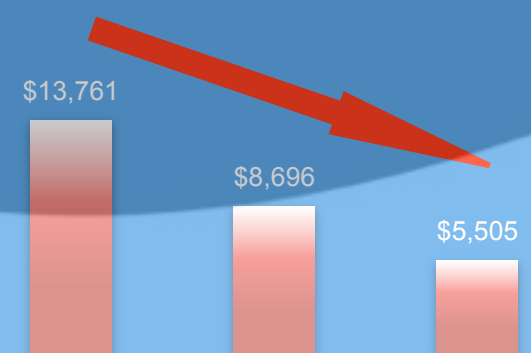
Fuel Economy



Gallons Consumed



Nominal Revenues



Simplified Business Case based on Statistics for Pilot At the 2016 CAFE Fleet Standards (37%)

Statistic	Nov. 2012	Dec. 2012	Jan. 2013	Feb 2013	Total
Transactions	1,402	2,787	2,867	1,180	8,236
Total Miles	32,908.9	71,059.0	79,663.8	49,918.9	233,550.6
Oregon Miles	31,478.4	35,346.4	35,671.0	25,842.4	128,538.2
Nevada Miles	1,430.5	18,663.2	26,366.4	24,076.5	70,536.6
Washington Miles	0	17,049.4	17,626.4	0	34,675.8
Gross Tax	\$479.71	\$542.51	\$1176.64	\$642.77	\$2,841.63
OR Fuel Tax Credit	-\$233.83	-\$199.49	-\$621.05	-\$310.11	-\$1,364.48
Net Tax	\$245.88	\$343.02	\$555.59	\$332.66	\$1,477.15
Increased Revenue	+105%	+172%	+89%	+107%	+108%

Note: Revenues based on per mile rate of 1.56¢ in Oregon; 1.87¢ in Washington and 1.19¢ in Nevada.

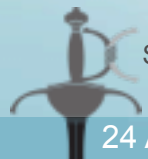
Source: DCL Analysis based on data taken from the Preliminary Findings Report on the Oregon Legislative Pilot Test, February 2013

Simplified Business Case based on Statistics for Pilot At the 2025 CAFE Fleet Standards (60%)

Statistic	Nov. 2012	Dec. 2012	Jan. 2013	Feb 2013	Total
Transactions	1,402	2,787	2,867	1,180	8,236
Total Miles	32,908.9	71,059.0	79,663.8	49,918.9	233,550.6
Oregon Miles	31,478.4	35,346.4	35,671.0	25,842.4	128,538.2
Nevada Miles	1,430.5	18,663.2	26,366.4	24,076.5	70,536.6
Washington Miles	0	17,049.4	17,626.4	0	34,675.8
Gross Tax	\$479.71	\$542.51	\$1176.64	\$642.77	\$2,841.63
OR Fuel Tax Credit	-\$148.46	-\$126.66	-\$394.32	-\$196.90	-\$866.34
Net Tax	\$331.25	\$415.85	\$782.32	\$445.87	\$1,975.29
Increased Revenue	+223%	+328%	+198%	+226%	+288%

Note: Revenues based on per mile rate of 1.56¢ in Oregon; 1.87¢ in Washington and 1.19¢ in Nevada.

Source: DCL Analysis based on data taken from the Preliminary Findings Report on the Oregon Legislative Pilot Test, February 2013



Simplified Business Case based on Statistics for Pilot

At a conservative mid-Point (41%)

Statistic	Nov. 2012	Dec. 2012	Jan. 2013	Feb 2013	Total
Transactions	1,402	2,787	2,867	1,180	8,236
Total Miles	32,908.9	71,059.0	79,663.8	49,918.9	233,550.6
Oregon Miles	31,478.4	35,346.4	35,671.0	25,842.4	128,538.2
Nevada Miles	1,430.5	18,663.2	26,366.4	24,076.5	70,536.6
Washington Miles	0	17,049.4	17,626.4	0	34,675.8
Gross Tax	\$479.71	\$542.51	\$1176.64	\$642.77	\$2,841.63
OR Fuel Tax Credit	-\$218.98	-\$186.82	-\$581.62	-\$290.42	-\$1,277.85
Net Tax	\$260.73	\$355.69	\$595.02	\$352.35	\$1563.78
Increased Revenue	+119%	+190%	+102%	+121%	+122%

Note: Revenues based on per mile rate of 1.56¢ in Oregon; 1.87¢ in Washington and 1.19¢ in Nevada.

Source: DCL Analysis based on data taken from the Preliminary Findings Report on the Oregon Legislative Pilot Test, February 2013

Road Usage Charging Advantages

- Sustainable revenue source—resilient to increasing fuel efficiency
- More proportionate to roadway usage and damage
- Allows collection by private industry in an open system model that provides lower administrative costs
- Fulfills the user-pays principle
- Is more equitable horizontally and vertically
- There are solid responses to the main arguments against distance-based charging
 - Too expensive to operate
 - Inequitable to rural drivers
 - Technology invades privacy
 - No Business Case

It's NOT about the Technology!





Thank you!

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